Abstract

The present invention concerns a digital imbalance correction device, comprising input means adapted to receive first input signals I-in, Q-in containing a plurality of channels from an I/Q converter stage at respective input terminals, each input terminal being associated to a respective signal branch, a time-to-frequency-domain-transforming means FFT adapted to perform a transformation of said first input signals from time-domain into frequency-domain, the transformation result being represented as a power spectrum of said respective first input signals, a subtracting means arranged to receive at its inputs second input signals which are represented by the power spectra of said respective transformed first input signals and to output the gain difference as a function of frequency at its output, a cross-correlation means arranged to receive at its inputs third input signals based on said input signals, and to output a cross-correlation of said third input signals, said cross-correlation output being proportional to a phase error between said respective correlation input signals, a gain correction means arranged in one of said respective signal branches and receiving at its input a fourth input signal based said associated first input signal, wherein a gain of said fourth input signal is corrected based on said power difference spectrum such that said gain of said fourth input signal equals the gain of the other one of said first input signals, and a phase correction means arranged in one of said respective signal branches and receiving at its input a fifth input signal based said associated first input signal, wherein a phase of said fifth input signal is corrected based on said cross-correlation output, such that said phase of said fifth input signal is in quadrature relation to the other one of

said first input signals. The present invention also concerns a corresponding method.